VW812

User Manual

Introduction

VW812 series of 1D wireless barcode scanners offers powerful reliability with efficiency. Idea for a wide range of applications from retail to healthcare and post offices.

Various type of interface are available for the receiver ：

USB (keyboard HID)
RS232C
RS485

Feature:

- Wireless freedom
  The VW81x series wireless scanners have a 300 meter line-of-sight from the communication stand. When not in the range, use batch mode to record over 260000 scans—that's freedom to roam widely.

- Advanced data formatting
  VW81x support advanced customizing data before transmission to the host. Data can be added/deleted one or mutiple characters or appended one or multiple prefix/suffix, etc. The value for prefix/suffix also customizable. All these can be implemented through simply scanning a related series of barcodes.

- Easy pairing
  Pairing can be done in just one scanning. It's easy to setup multiple scanners report to one receiver stand, etc.

- Battery monitoring
  By scanning a predefined barcode, battery voltage can be checked on the receiver's window. This will give more confident when bring the scanner out for work.

- Indication of status LEDs
  Multiple color LEDs are used to indicate the modes of operations, the status of operations.

Index

1. Characteristic 1

2. Shortcut Setting 2

2-1：Miscellaneous setting 2

2-2：Tx/Rx pairing 3

2-3：Check battery 3

2-4：key - multifunction enable/disable 3

2-5：Settings for suffix, repeat check and sleep control… 4

2-6：Operating mode 5

2-7：Symbologies On/Off 6

3. Advanced Setting 9

3-1: prefix/append after string: 10

3-2: Data Adjustment 11

3-3: Suffix 12

4. Appendix 14

4-1: Command codes 14

4-2: Digits 14

4-3: Non-visible character 14

4-4: Capital codes 15

4-5: Other codes 16

4-6: Sample Barcodes 17

4-7: Frequently used shortcut codes 19

1. Characteristic

Laser	Visible laser diode (VLD) @ 650 nm
Scan speed	120±10 scans/second
Decode capacity	Code128，UCC/EAN 128，Code93，UPC-A， UPC-E，EAN-13，EAN-8，ISBN/ISSN，Code39，Code39(full Ascii), Interleaved 2 of 5, Industrial 2 fo 5, Matrix 2of 5, CodaBar，CODE11，MSI，China Post code
Scan precision	4mils - 43mils
memory	4MBytes，can save over 266000 scans (calculated @ when length of barcode <15Bytes)
Frequency band	433MHz ISM band，maximum 100 channels
Linkage Range	300 meters (Line-of-sight)
Interface	Receiver stand：USB （HID keyboard profile），RS232C， RS485
Keyboard layout	The United States
Battery	3.7V/1000mAH, polymer li-ion
Current	Sleep：0.5mA； Scan：65mA； Rf Transmitting ： 135 mA
Standby	3 months
Status indication	Beep, LED
Operation Temp.	-10℃ ~ 50℃ (32° ~ 120° F)
Storage temp.	-40℃ ~ 60℃ (-40° ~ 140° F)
Relative Humidity	5% ~ 90% (non condensing)
ESD	+/-8KV air discharge; +/-4KV contact discharge
Material	ABS

2. Shortcut Setting:
One scanning of the appropriate barcode below

2.1 Shortcut Setting1: Miscellaneous setting

Firmware version (Tx)

Firmware version (Rx)

Beep on

Buzzer

Beep off

Negative image check on

Negative image

Negative image check off

Default mode

Scan mode

Continuous mode

Blink mode

Reset para. for Tx

Para. reset

Reset para. for Rx

Tip: when scanning Reset para. for Rx barcode, the blue Led on the scanner will blink. To complete the operation, please takeout the USB receiver first, then insert back to the USB port again. At that time, the USB receiver's parameters will be reset to default(all remote configure operation for the receiver will only be done during its power on period). The LED on the scanner will stop blink which indicate a successful remote configuration.

2.2：Tx/Rx pairing

Pairing barcode：

Tip： when scanning Pairing barcode, the blue Led on the scanner will blink. To complete the operation, please takeout the USB receiver first, then insert back to the USB port again. And now these two devices will be paired. The scanner will beep 3x to indicate a successful operation.

2. 3： Check battery

Tip: when scanning the Check battery barcode, the receiver will display the battery's voltage and the remaining power on the PC terminal (notepad, for example).
The scanner will continue to monitoring the battery status. When it's voltage < 3.65V, the scanner will beep 1x every 7s which indicates a low battery condition. The user is encouraged to charge the battery when that happened. When Volt < 3.5V, the scanner will auto off immediately to prevent the battery to be discharged too much.

2. 4：key - multifunction enable/disable

Enable multifunction

Multifunction key

Disable multifunction (default)

Tip：when enable multifunction for the scanner's key, we can toggle different modes by holding the key for a predefined period without scanning appropriate barcodes as normal：

1）Normal operation: press the key to scan a barcode, and release it when finished

2) To change the operation mode, point the scanner to a blank area, press the key and hold down for about 4s, at that time the laser should off。

3）Continue holding down the key till about 7s, a beep will sound。If we release the key at that time, then the scanner will enter resume batch report mode which will resume to report saved barcode during batch mode. (refer page5 for different modes)

4）if we didn't release the key at step 3, and hold down the key till about 12s, the scanner will toggle the operate mode between normal_mode/ batch_mode. A longer beep will sound when it happen. The yellow led will light on/off to indicate the mode status.

2.5：Settings for suffix, repeat check and sleep control

Suffix - return （default）

Suffx

Suffix - newline

Suffix - return+newline

Suffix - TAB

Suffix - Right arrow

No suffix

Alarm if within 5s

Repeat code

Alarm if within 10s

No repeat code check （default）

Auto sleep when idle for 30s

Sleep control

Auto sleep when idle for 60s (default)

Auto sleep when idle for 2min

No auto-sleep mode

3.6：Operating mode

Batch report memory

Resume batch report

Barcode counts

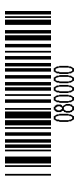
Batch mode

Normal mode（default）

Batch mode/normal mode auto toggle on

Batch mode/normal mode auto toggle off (default)

Clear memory



Format memory

1. Batch report memory： report the saved barcodes in memory. A press the key will terminate the report process during large report.
2. Resume batch report：report the saved barcodes form the point of last reported code.
3. Barcode counts：report the counts of barcode in the memory.
4. Batch mode：yellow LED will on. The scanning result will be saved to memory instead of reporting to receiver.
5. Batch mode/normal mode auto toggle on/ff: when on, then, if report to receiver failed for 3x continuously (out of link range, etc), scanner will auto switch to batch mode.
6. clear memory：memory will be reset, counts will reset to 0.
7. Format memory: format the internal memory, all saved codes will lost.

3.7：Symbologies On/Off

Tips: by default, the following symbologies will be enabled: Code128, interleaved Code25, UPC-A/E, EAN, CODE93, CODE39, CODABAR. For others decoder, please scan the appropriate barcode to enable/disable it.

Interleaved 2 of 5

On Interleaved Code25

010021

(*)

Off Interleaved Code25

010020

On Industrial Code25

010121

Industrial 2 of 5

Off Industrial Code25

010120

On Matrix25

010031

MATRIX25

Off matrix25

010030

On Code39

010041

Code39 (*)

Off code39

010040

On full Ascii mode

011041

Off full Ascii mode

011040

Report code39 start digit

011141

Not Report code39 start digit

011140

On UPC/EAN

010061

UPC/EAN (*)

Off UPC/EAN

010060

3.7：Symbologies On/Off（Cont.）

Enable EAN add-ons check

EAN add-ons check (EAN2,5)

Disable EAN add-ons check

Enable convert UPC-E to UPC-A

UPC/EAN Convert

Disable convert UPC-E to UPC-A

Enable convert UPC to EAN-13

Disable Convert UPC to EAN-13

On MSI

MSI / PLESSEY

Off MSI

On Code93

Code93 (*)

Off code93

On ChinaPost

China Post

Off ChinaPost

On CodaBar

CodaBar (*)

Off CodaBar

3.7: Symbologies On/Off（Cont.）

Enable report CodaBar start/stop digit

CodaBar (*)

disable report CodaBar start/stop digit

On Code11

Code11

Off Code11

Enable Code11 check digit

Disable code11 check digit

Enable report code11 check digit

Disable report Code11 check digit

3. Advanced Setting：

Advanced setting can use to customizing data format before reporting to recevier。

Advanced setting can be implemented through scanning a related series of barcodes.

1) Basic steps:

1. Scan Enter Advanced Setting barcode
2. Scan function code 1
3. Scan function code 2 (opt.)
4. （Opt.）
5. …
6. Scan Exit Advanced Setting barcode

Function codes are at the format as ATSxxxx=xxxxx or ATSxxxx.

All the function codes must be ended with END COMMAND code

We can use any barcode printer to print the function code as needed to get the required setting.
Or, we can scan the individual letter code one by one, then scan the the <END> code, the scanner will auto combine codes to form a full function code.

2) Report format

The receiver will report the scanned barcodes to the host by using the following format：

prefix	data	*Append string*	*suffix*

Original data is the scan result. Normally it will be reported *as is* to the host. But it's allowed to adjust/add/append/delete some characters before reporting to the host

The details will be illustrated the in the following sections.

Advanced setting 1 - prefix/append after string:

Prefix:

Prefix will add to before the code，max length is 12 letters。For example, the code = ABCDEFG， prefix= 123，then the finial reporter will be 123ABCDEFG

Append after string:

This string will be appended to the end of codes。

For example, the code = ABCDEFG， append_after_string= 123，then the finial reporter will be ABCDEFG123

Enter
Advanced Setting Mode

Enter Advanced Setting

item	note
ATS1010	Clear the prefix
ATS1011=	Set the prefix. Following by max length of 12 letters, and ended by scan the <END> code
ATS1020	Clear the append_after_string.
ATS1021=	Set the append_after_string. Following by max length of 12 letters, and ended by scan the <END> code

Exit Advanced
Setting Mode

Exit advanced setting

Appendix.
END COMMAND

Advanced setting 2 – Data Adjustment:

The scanned data can be adjusted further before reporting to the host。 For example, it can be delete some characters from the beginning or from the end.

Enter Advanced Setting Mode

Enter Advanced Setting

item	note
ATS835=	Set the delete counts of characters from the beginning。 The mostly used counts are list in counts table (page 13)
ATS836=	Set the delete counts of characters from the end。 The mostly used counts are list in counts table (page 13)
ATS837=	Set the maximum length of reporter. (Out range of characters will be deleted)
ATS837=12	Examples: this will set the maximum length of reporter to be 12 characters. If the code have more than 12 characters, they will be deleted after the 12th character.

Exit Advanced Setting Mode

Exit advanced setting

Appendix. END COMMAND

Advanced setting 3—Suffix

The scanned data can be formatted further before report to the host。

Some ERP application will require some more keys pressed after scanned the barcode. We can use the suffix to complete the job to easy the input for those applications.

The suffix is set to one Return key by default.

Anyway, it can be set to other keys, like the TAB, arrow keys, etc, and the counts also can be set.

The scanner support 3 stages' suffix, for example, it can be set as: append 3 return keys, then 2 right arrow keys, then 1 down arrow key, etc.

Enter Advanced Setting Mode

Enter Advanced Setting

item	note
ATS800=	Set stage 1 suffix key type. Please see normal suffix Table (page 13)
ATS810=	Set stage 1 suffix key counts。 Counts please see counts table (page 13)
ATS801=	Set stage 2 suffix key type. Please see normal suffix Table (page 13)
ATS811=	Set stage 2 suffix key counts。 Counts please see counts table (page 13)
ATS802=	Set stage 3 suffix key type. Please see normal suffix Table (page 13)
ATS812=	Set stage 3 suffix key counts。 Counts please see counts table (page 13)

Exit Advanced Setting Mode

Exit advanced setting

Appendix.

END COMMAND

Suffix Table：（More suffix setting can be provided upon request.）

 13 Return	 10 New line
 9 TAB	
 17 ←Left arrow	 18 →Right arrow
 19 ↑Up arrow	 20 ↓down arrow

Counts table：

 1	 2
 3	 4
 5	 6
 7	 8
 9	 10
 11	 12
 13	 14

Appendix：

4.1: Command codes

4.2: Digits

4.3: Non-visible character

4.4: Capital codes

4.5: Other codes

~

!

@

#

$

%

^

&

*

(

)

_

+

`

-

=

{

}

|

[

]

:

"

;

'

<

>

?

,

.

/

\

4.6: Sample Barcodes

The following Symbologies are ON by default.

Code128

Code39

Code93

Interleaved 2 of 5 (ITF25)

UPC-A

UPC-E

EAN13

EAN8

ISBN

ISMN

ISSN

CODABAR

The following Symbologies are OFF by default, please ON it before scanning.

Matrix 25

Industrial 2 of 5

MSI/Plessey

China Post

Code11

4.7: Frequently used shortcut

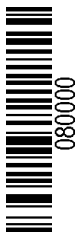
Report memory

Resume report memory

Barcode counts

Inventory mode

Clear memory



Normal mode（default）

Check battery

Suffix - return（default）

USER MANUAL V3.2